REMARKS

Claims 1-29 are pending. Claims 1-29 were rejected. Independent claims 1, 6, 11, 17, and 26 were rejected under 35 U.S.C. 112(2) as being indefinite. Independent claims 1, 6, 11, 17, and 26 were rejected under 35 U.S.C. 102(e) as being unpatentable over Jindal (6,092,178).

Claim 9 was objected to because of informalities. Claim 9 has been amended to overcome this objection.

The Examiner rejected dependent claims 4, 10 16, 25, and 29 under 35 U.S.C. 112(1) as failing to comply with the enablement requirement. The Examiner argues that it is not disclosed how bits are randomly generated, the degree of randomness, and how "random bits" are distinguishable from real data. The Applicants respectfully disagree. As will be appreciated by one skilled in the art, a wide variety of techniques are available from generating random bits. In some examples, randomness can be achieved by amplifying noise generated by a resistor (Johnson noise) or a semi-conductor diode and feeding this to a comparator or Schmitt trigger. The output provides a series of bits that are statistically independent. In other examples, a conventional software random number generator can be used. Knowing the degree of randomness of the bits or their distinguishability from non random bits is not essential for implementing the techniques and mechanisms of the present invention. According to various embodiments, the bits may be slightly random or truly random and the bits need not even be distinguishable from other bits.

The Examiner rejected independent claims 1, 6, 11, 17, and 26 as being indefinite under 35 U.S.C. 112(2). The techniques and mechanisms of the present invention recognize that information for selecting a server can be obtained simply from the fact that a particular packet, regardless of its contents, is successfully sent to a server and is received back from the server. In one example, if a small datagram is transmitted successfully, the client knows that at least some bandwidth is likely available. If a large datagram is transmitted successfully, the client knows that ample bandwidth is likely available.

The techniques and mechanisms of the present invention recognize that large datagrams can be created by performing padding at a server. Alternatively, header lengths can be altered so that network nodes believe that the datagram is a large datagram. "According to specific

embodiments, content server 115 can also pad response datagrams to provide network information to the network node associated with the client 101 ... The reply datagram can be padded with an arrangement of bits to create an altered response datagram. When a router 112 receives the padded reply message ... The router 112 then determines whether to queue, drop, transmit the datagram. The router 112 may use best-effort delivery and transmit the datagram when bandwidth is available. If no bandwidth is available, the router 112 may leave the packet in the queue for a certain period of time. If this period of time expires, the packet may be dropped. The router may also use a variety of traffic shaping and policing algorithms to determine whether the packet should be transmitted. Typically, the larger the datagram, the less likely the datagram will be immediately transmitted unless ample bandwidth is available." (page 13, line 22 – page 14, line 15)

The Examiner rejected claim 6 under 35 U.S.C. 112(2) and states that it is unclear how the network layer length is greater than the transport layer length and the network layer header length. The techniques and mechanisms of the present invention recognize that a packet can be made to seem larger to a router simply by adjusting the header length field. Padding can be accomplished by simply adjusting the header length field without even adding bits.

In many conventional implementations, the network layer length is the same as the transport layer length and the network layer header length. This is shown in Figure 3. According to various embodiments, "Prior to transmission, the content server 115 increases the layer three length while leaving the layer four length unaltered. The reply datagram can be padded with an arrangement of bits to create an altered response datagram. When a router 112 receives the padded reply message, it identifies the length of the message based on the layer three length. This can be the total length field of an IP datagram, which is limited to 65,535 octets." (page 14, lines 2-7). Consequently, padding can be accomplished by simply adjusting the header length field without even adding bits. One example is shown in Figure 3.

Based on the above remarks and the minor amendments to claim 6, all 35 U.S.C. 112 rejections are believed overcome.

The Examiner cites Jindal for the 35 U.S.C. 102(e) rejection of the independent claims. Jindal describes a trigger "for taking action in response to a client request received at a DNS server... client requests for an application (e.g., an application program or replicated service) are

load-balanced among the multiple instances of the application operating on multiple servers." "Based on the collected information, one or more preferred servers are identified based on one or more load balancing policies." (Summary)

However, as noted by the Examiner, Jindal fails to explicitly teach "providing a padded response datagram, wherein the padded response datagram is obtained by padding the response datagram with an arrangement of bits" as recited in independent claims 1, 6, 11, 17, and 27. The datagram is padded even when "network requirements allow transmission of the response datagram to the network node without padding the response datagram" as recited in claims 1, 11, 17, and 27. The techniques of the present invention recognize that "typically, the larger the datagram, the less likely the datagram will be immediately transmitted unless ample bandwidth is available." (page 14, line 15) Padding a datagram when a datagram can be transmitted is counterintuitive because it seems to decrease efficiency without any benefits. However, the techniques of the present invention recognize that padding a datagram prior to transmission even if network requirements allow transmission without padding can provide information to a user. "Typically, the larger the datagram, the less likely the datagram will be immediately transmitted unless ample bandwidth is available." (page 14, line 15)

Jindal also fails to explicitly teach providing that "the network layer length is greater than the sum of the transport layer length and the network layer header length" as is explicitly recited in independent claim 6.

In light of the above remarks relating to independent claims, the remaining dependent claims are believed allowable for at least the reasons noted above. Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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